Safe, Healthy and Ready to Succeed

Arizona School Readiness Key Performance Indicators

State School Readiness Board
Governor's Office for Children, Youth and Families
2006

Safe, Healthy and Ready to Succeed:
Arizona School Readiness Key Performance Indicators

Written by Donna E. Migliore, School Readiness Associate
State School Readiness Board
Governor's Office for Children, Youth and Families
Phoenix, AZ

Copyright 2006 by State of Arizona
All rights reserved. Permission is given to reproduce this report, in whole or in part, for educational or personal use, provided such copies are not disseminated for profit and each copy bears the statement, "Copyright 2006 by State of Arizona. All rights reserved. Used with permission."

Published 2006

For additional copies of this report contact:
State School Readiness Board
Governor's Office for Children, Youth and Families
1700 W. Washington Street, Suite 101
Phoenix, AZ 85007
(602) 542-3620
http://www.governor.state.az.us/cyf/school_readiness/index_school_readiness.html

---

Edited by
Irene Jacobs
Executive Director and Senior Policy Advisor to the Governor
Governor's Office for Children, Youth and Families

Prepared through the efforts of the
State School Readiness Board
Governor's Office for Children, Youth and Families

Karen Ortiz
Director

Sandy Foreman
Early Care and Education Policy Analyst

Jennifer Johnson
Head Start Collaboration Director

Donna E. Migliore
School Readiness Associate

Alicia Smith
Senior Policy Advisor for Professional Development

Judy Walruff
Early Childhood Health Systems Coordinator

Gail Spry
Administrative Coordinator

Acknowledgements

The State School Readiness Board would like to thank the members of the Key Performance Indicators advisory team for their assistance in preparing this report.

Marilee Dal Pra
Senior Program Officer
The Virginia G. Piper Charitable Trust

Marie Mancuso
Deputy Associate Superintendant
Standards Based Teaching and Learning,
School Effectiveness Division
Arizona Department of Education

Donna Migliore
School Readiness Associate
State School Readiness Board
Governor's Office for Children, Youth and Families

Dana Naimark
President and CEO
Children's Action Alliance

Karyn Parker
Director
Success by Six
Valley of the Sun United Way

Wayne Parker
Director of Research and Evaluation
The Virginia G. Piper Charitable Trust

Kathy Reimer
Director of Research and Evaluation
Children's Bureau
WestEd

Ginger Ward
Executive Director
Southwest Human Development

Nancy Welch
Associate Director
Morrison Institute for Public Policy

Karen Woodhouse
Deputy Associate Superintendent
Early Childhood Education
Arizona Department of Education

Executive Summary

School readiness promotes academic success and positive future outcomes for children. Children who are ready to learn when they enter school score better on standardized tests, have lower rates of grade retention, and graduate from high school more often than children who are not ready for school.

Because school readiness includes cognitive, emotional, social and physical aspects, children need support in several areas. Parents, caregivers, early education programs, schools and teachers, state agencies, non-profit organizations, businesses and communities all have a part to play in ensuring children enter school ready to learn.

In January 2005, Governor Janet Napolitano and the School Readiness Board presented a School Readiness Action Plan. The School Readiness Action Plan outlines strategies to increase the readiness of Arizona's children. The School Readiness Action Plan builds a collaborative statewide system of supports aimed at moving Arizona toward a future in which all children enter first grade healthy, safe and ready to succeed.

This initial version of *Safe, Healthy and Ready to Succeed: Arizona School Readiness Key Performance Indicators* provides a baseline set of sixteen Key Performance Indicators by which to measure the shared outcomes of Arizona's system of school readiness supports. The Key Performance Indicators align with the strategies proposed in the School Readiness Action Plan and are intended to track factors that affect school readiness on a statewide scale.

Key Performance Indicator Findings Summary

Child Readiness

- Only thirteen percent (13%) of Arizona children entering Reading First kindergarten classrooms meet "benchmark" early literacy-related skills.
- Arizona fourth-graders consistently score slightly below the national average on the National Education Assessment of Progress (NAEP) reading measure, with about a third of Arizona school children meeting basic proficiency.

Ready Families

- Just over one third of births in Arizona are to women with less than a 12th grade education compared to a national rate of twenty-two percent (22%).
- The number of births to Arizona mothers who receive late or no prenatal care is consistently higher than the national average and has risen since 2000. In 2004, 7.2% of Arizona mothers received late or no prenatal care.
- Fifty-six percent (56%) of Medicaid eligible, Arizona children, ages three to six years old, get the

recommended annual well child checkup, a rate four percent (4%) below the national average. However, the well-child checkup rate for those children has improved by nine percent (9%) since 2000.

- The immunization rate for Arizona children ages 19 to 35 months has improved by nine percent (9%) since 2000, reaching eighty-one percent (81%) in 2004. The national average immunization rate for Medicaid eligible children ages 19 to 35 months was eighty-three percent (83%) in 2004.
- The percentage of Arizona children covered by health insurance increased three percent (3%) from 2000 to 2003. In 2003, fifteen percent (15%) of Arizona children were not covered by health insurance compared with the national average of eleven percent (11%).

Ready Programs and Schools

- At 82 cases per surveyor, the 2006 case loads of Arizona child care licensing surveyors were sixty-four percent (64%) higher than the 50 cases per surveyor recommended by the National Association for the Education of Young Children (NAEYC).
- In 2006, eighteen percent (18%) of licensed child care facilities were accredited by one of the accrediting organizations accepted by the Arizona Department of Education.
- Enrollments in ECBG funded preschool increased nineteen percent (19%) from 2003 to 2005.
- Enrollments in Head Start and Early Head Start increased by two percent (2%) from 2003 to 2005.
- The number of Arizona children enrolled in voluntary, state-funded, full-day kindergarten for the 2005-2006 school year was 27,907—more than double the number of children enrolled in voluntary, state-funded, full-day kindergarten during the 2004-2005 school year.
- In 2004, the average daily charge for a full day of care for a three-year-old child at an Arizona child care center was $29.35 per day, an increase of forty-three percent (43%) since 2000.
- Thirty-two percent (32%) of Arizona early childhood education teachers have a bachelor degree, comparable to the national rate.
- Seventeen percent (17%) of Arizona early childhood education teachers have been on the job less than two years.
- The median average hourly wage for an Arizona early childhood education teacher was $9.00 per hour in 2004.

Summary of Conclusions

Many Arizona children arriving at their first day of grade school are unprepared to learn and succeed, as indicated by their lack of early literacy skill and subsequent scores on standardized academic tests.

Appreciable improvements have been made in child health, though efforts in this area should continue.

Parents are taking full advantage of voluntary, full-day kindergarten as soon as seats become available, supporting the need for voluntary, state-funded, full-day kindergarten.

The cost of child care is a significant and growing expense for families. Program quality measures such as teacher education levels, staff stability, and teacher pay, have not improved proportionate to fees. Early childhood education providers should be afforded resources to enhance program quality.

Arizona's early childhood education field faces the same problems affecting the industry on a national scale. Efforts to improve the education, retention and pay of Arizona's early education teachers should be continued and enhanced.

Contents

Introduction 1

Demographic Factors 4

Key Performance Indicators

- School Readiness Outcomes 6
- Ready Families 8
- Ready Programs and Schools 13
- Ready Teachers 22

Community Efforts 25

Conclusions 27

Endnotes 28

Introduction

Critical Early Years

A child's brain develops at a tremendous rate during the first years of life. From birth to nine months, the brain's weight doubles, and by age six has grown to ninety percent (90%) of adult size.[1] Additionally, from birth to three years, a young child's brain is building a network of synaptic pathways that will be the foundation for later learning. A three-year-old toddler's brain has about 1000 trillion synapses—many more than the child will ever need. As the child grows, some of these synaptic pathways will be strengthened while others will be discarded.[2] Experiences that use synaptic links in specific brain regions guarantee those links will thrive, while links that are unused will decay.[3] Enriching early experiences are key to building the rich neural networks a child needs to succeed.

Children who have enriching early experiences are eager to begin first grade and ready to learn when they get there. Children who are ready to learn when they enter school score better on standardized tests in mathematics, language development and reading,[4,5] have lower rates of grade retention,[6] and graduate from high school more often than their peers who are not ready for school.[7,8]

Children who are disadvantaged—by emotional or behavioral impairments, by poverty or family circumstances, by ill health or untreated physical maladies, by lack of responsive, caring relationships and few opportunities for enriching experiences—will be less ready for school. Children who are not ready for first grade may have difficulty dealing with the social and emotional demands of the classroom and acquiring the basic academic skills needed to progress through the elementary grades.[9,10,11] These children are more likely to be held back a grade,[12] drop out of high school, and become involved with the justice system than their peers who are ready for school.[13,14]

Being ready for school is more than being chronologically old enough to start first grade; rather, school readiness is a complex intertwining of factors.[15] Being ready for school means a child is cognitively, physically, socially and emotionally prepared to learn. Because school readiness is multifaceted, children need support in several areas. Caring, stable relationships with parents and family are the building blocks for school readiness, but children also need access to health care and nutrition; quality early childhood education settings; teachers and schools that are prepared and able to provide enriching experiences; and safe, supportive communities. Ensuring that Arizona's children are ready for school means that everyone—parents and families, caregivers, early childhood education programs, schools and teachers, state agencies, non-profit organizations, businesses and communities—has a part to play in their success.

Introduction

Helping Arizona's Children Succeed

In January, 2005, Governor Janet Napolitano and the School Readiness Board presented a School Readiness Action Plan, which envisions an Arizona where all children begin first grade safe, healthy and ready to succeed. The School Readiness Action Plan is designed to improve the readiness of Arizona's children in all developmental domains—physical, cognitive, social and emotional.

The School Readiness Action Plan outlines strategies to increase the readiness of Arizona's children by educating parents and increasing supports for families; by improving the quality and safety of early childhood educational settings and expanding access to high-quality, early childhood education and full-day kindergarten; by increasing the number of and retention of qualified early childhood professionals; and by creating partnerships to build the capacity of communities to provide quality early childhood education. The School Readiness Action Plan builds a collaborative statewide system of supports aimed at moving Arizona toward a future in which all children enter first grade healthy, safe and ready to succeed.

Measuring Systemic Change

Arizona, like all other States, has a unique mix of geographic, economic and social situations that affect all facets of our lives, including the readiness of our children to enter school. Some of these factors, such as Arizona's high mobility rate, are unlikely to be overcome by school readiness efforts; however, meaningful changes that improve the ability of our children to succeed can be made. In order to determine if those improvements are being achieved, methods of looking at the well-being of Arizona's children, the early childhood education system, and related community and environmental factors are needed.

The Key Performance Indicators selected for this report align with the School Readiness Action Plan by measuring factors that affect the individual child, the child's family, early learning settings, and the community. The Key Performance Indicators measure improvements made by a collaborative, statewide *system* of supports for school readiness. This system includes parents and families, caregivers, early childhood education programs, schools and teachers, state agencies, non-profit organizations, businesses and communities. The Key Performance Indicators look at accountability for the *shared* outcomes of this system (as differentiated from program outcomes). No single agency, organization or program is solely responsible for any shared outcome; rather, the Key Performance Indicators deal with combined efforts in preparing Arizona's children for school. Because progress on a larger scale takes time, the Key Performance Indicators will be reported in two-year increments, so that trends can be tracked.

The Key Performance Indicators were selected through a process that included review and input from community partners and consultation with state agencies. Many possible indicators were proposed; however, only those for which data sources are currently available, gathered regularly and from a reliable source[16] were included in this document. The potential measures were then narrowed to those indicators that meet the data requirements, are most indicative of situations affecting school readiness and that also align with the School Readiness Action Plan. The resulting sixteen Key Performance Indicators are those that meet the aforementioned requirements and which a statewide system of school readiness supports can reasonably affect.

Additionally, demographic factors related to the economic and social situations that affect school readiness are reported. Although these expansive conditions, such as poverty and migration, cannot reasonably be affected by the work of a statewide system of school readiness supports, tracking changes in these conditions helps define the environment in which the work of the system must be conducted.

Introduction

School Readiness Key Performance Indicators

1. Percentage of Lower-Income Children Entering Kindergarten With "Benchmark" Literacy-Related Skills
2. Percentage of Children Meeting the 'At Basic' Measure on the NAEP 4th Grade Reading Assessment
3. Percentage of Births to Mothers With Less Than a 12th Grade Education
4. Percentage of Births to Mothers Who Received Late or No Prenatal Care
5. Percentage of Medicaid Eligible Children Ages 3-6 Years Receiving an Annual Well-Child Checkup
6. Percentage of Children 19-35 Months of Age Who Are Fully Immunized
7. Percentage of Children Ages Birth to Five Years Without Health Insurance
8. Ratio of Child Care Licensing Surveyors to Case Load
9. Percentage of Licensed Child Care Facilities That Are Accredited
10. Number of Children Enrolled in ECBG Preschools
11. Number of Children Enrolled in Head Start or Early Head Start Programs
12. Number of Children Enrolled in Voluntary, State-Funded, Full-Day Kindergarten
13. Average Daily Charge for a Full Day of Care, for a Three-Year-Old, at a Child Care Center
14. Percentage of Early Childhood Education Teachers With a Bachelor Degree
15. Percentage of Early Childhood Education Teachers on the Job Less Than 2 Years
16. Median Average Hourly Wage for Early Childhood Education Teachers

Demographic Factors Affecting School Readiness

Beyond the individual child are demographic factors that hinder or support school readiness in a larger context. Arizona faces some particular challenges in ensuring children enter first grade ready to succeed, including a high mobility rate, a significant number of young children living in poverty and an increasing number of children entering school as English language learners.

Mobility and Migration

Arizona has one of the fastest growing populations in the nation. Arizona's population grew forty percent (40%) from 1990 to 2000. From mid-2000 to mid-2005, Arizona's population then increased by nearly another sixteen percent (16%). Only Nevada has experienced more growth over the past 15 years than Arizona.[17]

Along with the increase in population comes a high mobility rate. Nearly one and a half million children moved to Arizona, or from place to place within Arizona, during 2004. External migration from other countries to Arizona is higher than the national average. Over 13,000 foreign-born children ages one to seventeen moved to Arizona with their families in 2004.[18] Arizona also had the second-highest, average annual rate of state-to-state migration from 2000 to 2004. Only forty-one percent (41%) of Arizona residents were born in Arizona, while nationally sixty-seven percent (67%) of residents still live in the State where they were born.[19]

There is also a high rate of interior mobility within Arizona. Families move from one Arizona city to another and from neighborhood to neighborhood more often than the national average. During 2004, nearly sixteen percent (16 %) of Arizonans (over 870,000 residents) moved from one house to another within Arizona.[20]

It can be difficult for school-age children to catch up with a different academic curriculum, adjust to a new school culture and make new friends; but the disruption of moving also affects very young children. Working parents of preschool age children who move their families must often find new child care arrangements. Young children form attachments to their early childhood education providers and these positive relationships can be beneficial for the child.[21] Children who have a stable, positive attachment to their early childhood education provider show enhanced social-emotional development in their interactions with peers. Conversely, young children who change early childhood education teachers and who are unable to form a positive relationship with their new teacher, are more aggressive and withdrawn than children who do not change early childhood education teachers.[22]

Young Children in Poverty

Poverty has consistently negative effects on children's readiness for school.[23,24,25] Poverty is a primary predictor of school

performance disparities among children starting first grade[26] and, although impoverished children and middle-income children learn at similar rates, when poor children enter school they are already significantly behind their classmates.[27,28] Cognitively, poor children may be as much as an entire year behind other children when they start school. Beginning school with such a huge deficit puts impoverished children on a path for low academic performance and the resulting negative personal and social outcomes school failure entails.[29]

In 2005, there were nearly 126,000 Arizona children age five or younger living in poverty.[30] Because family incomes tend to rise as parents age, become more experienced workers, and earn better pay, child poverty is highest among very young children. Children ages birth to five years are more likely to be poor than school-age children.[31] Research on educational attainment and poverty suggests that family income in the first five years of a child's life has more effect on whether or not the child later graduates from high school than family income during the school years.[32] Arizona's percentage of children ages birth to five years living in poverty is consistently higher than the national average. In 2004, twenty-four percent (24%) of Arizona's children lived in poverty, while nationally only twenty-one percent (21%) of children ages birth to five years were impoverished.[33]

English Language Learners

In order to succeed in school, young English language learners must attain the same academic skills and content knowledge as their English proficient peers while also mastering a new language. The difficulty of doing both is born out by the academic records of limited English proficient students. English language learners score significantly lower than their English proficient peers on standardized achievement tests of both reading and mathematics.[34,35]

The highest percentage of limited English proficiency students can be found in pre-kindergarten through third grade.[36] How proficient an English language learner becomes in the lower elementary grades has significant impact on future school success.[37] Becoming English proficient in the lower elementary grades can determine whether a child is able to absorb content knowledge, make satisfactory grades, be promoted, and graduate from high school. Among other factors, poor English skills have been identified as a predictor of high school drop out among Hispanic students.[38]

The number and percentage of Arizona school children with limited English skills continues to increase. During the 1993-1994 school year only 11.7% of Arizona public school students needed help learning English.[39] That percentage had grown to approximately fifteen percent (15%) or 154,071 English language learner students, for the 2004-2005 school year.[40] Nationally, just over ten percent (10%) of students have limited English proficiency.[41]

School Readiness Outcomes

Early Literacy

Early literacy is a strong predictor of later academic success.[42,43] Children who are ready to learn when they enter first grade have already acquired rudimentary literacy skills such as knowing which way to hold a book, understanding that English print is read from left to right, the ability to name the letters of the alphabet and to match verbal sounds with their corresponding letters.[44,45] Children who lack these early literacy skills don't have the basic building blocks for first grade reading and writing skills.

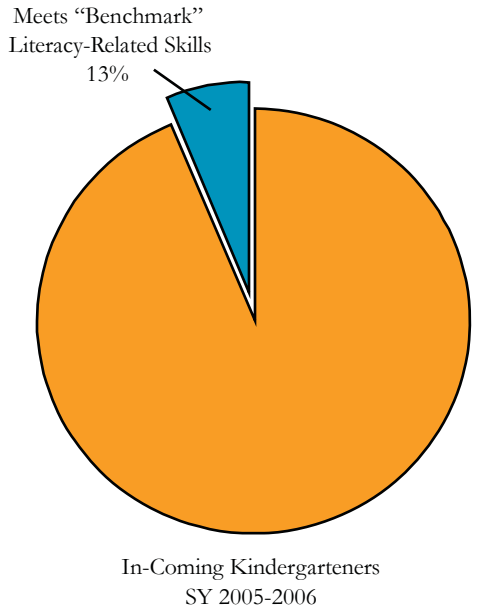
The Arizona Department of Education (ADE) requires that each charter school or school district that provides instruction in kindergarten through third grade conduct reading assessments to monitor student progress, including the early literacy skills of kindergartners. Arizona school districts and charter schools may choose from one of three assessment tools approved by the State Board of Education or another assessment tool that meets specific criteria.[46] Although these assessment tools measure only one domain of readiness, kindergarten early literacy skills can serve as a benchmark of a child's readiness for school because literacy is a precursor to mastering other academic content.

Compiled kindergarten early literacy assessment data for all Arizona school districts and charter schools is not currently available;[47] however, we can use results from early literacy assessments of Reading First[48] kindergarten classrooms as a starting place for further development of this measure. Reading First classrooms use the Dynamic Indicators of Basic Literacy Skills (DIBELS) assessment, a measure of early literacy given to children upon entry to kindergarten, at mid-year, and again at the end of kindergarten. The DIBELS assessment given upon entry to kindergarten is used as the measure because the intake assessment does not include effects attributable to the Reading First program.

Over half (53%) of incoming kindergartners entering Reading First classrooms at the beginning of SY 2005-2006 required intensive remedial instruction in literacy-related skills to bring them to the basic proficiency level expected for their age. Over a third (34%) of children entering Reading First kindergarten classrooms in SY 2005-2006 needed strategic instruction while only thirteen percent (13%) were at benchmark proficiency upon classroom entry.[49]

(Because Reading First classrooms are a preselected sample, results for this measure should be used cautiously. Ideally, this measure should include a wider sample of classrooms and integration of results from other ADE approved assessment tools in addition to DIBELS.)

Percentage of Lower Income Children Entering Kindergarten With "Benchmark" Literacy-Related Skills



Source: Arizona Department of Education
Note: Includes only the 5824 children beginning kindergarten in a Reading First classroom during the 2005-2006 school year.

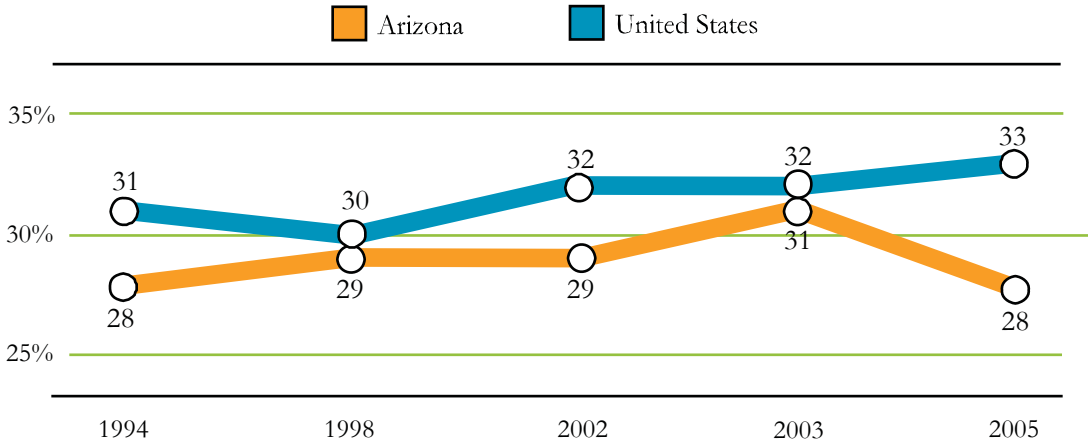
Key Performance Indicators

School-Age Reading Ability

Children who are not at least moderately proficient in reading by 3rd or 4th grade are at greater risk for academic failure. Low literacy makes it that much harder for children to learn content in classes such as math, social studies, and science and to score well on standardized tests. Poor academic performance in elementary school carries over into high school[50] and low grades and poor outcomes on ability tests are risk factors for dropping out of school. For the lowest scoring students, those earning D's and less, graduating from high school is the exception.[51] Therefore, it's important to ensure children have achieved competency in reading before they move into the upper elementary grades.

The long-term measure selected to track school readiness outcomes is the National Education Assessment Progress (NAEP) measure for reading proficiency in 4th grade.[52] A review of the NAEP scores shows that fewer Arizona children score 'at basic' proficiency on the reading assessment than the national average. Furthermore, Arizona has fewer children who are 'proficient' and 'advanced' readers than most other States.[53]

Percentage of Children Meeting the 'At Basic' Measure On the NAEP 4th Grade Reading Assessment



Source: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Education Progress, 1994, 1998, 2002, 2003, 2005.
Note: The comparative chart does not include data for 2000 as Arizona did not participate in the 2000 assessment.

Ready Families

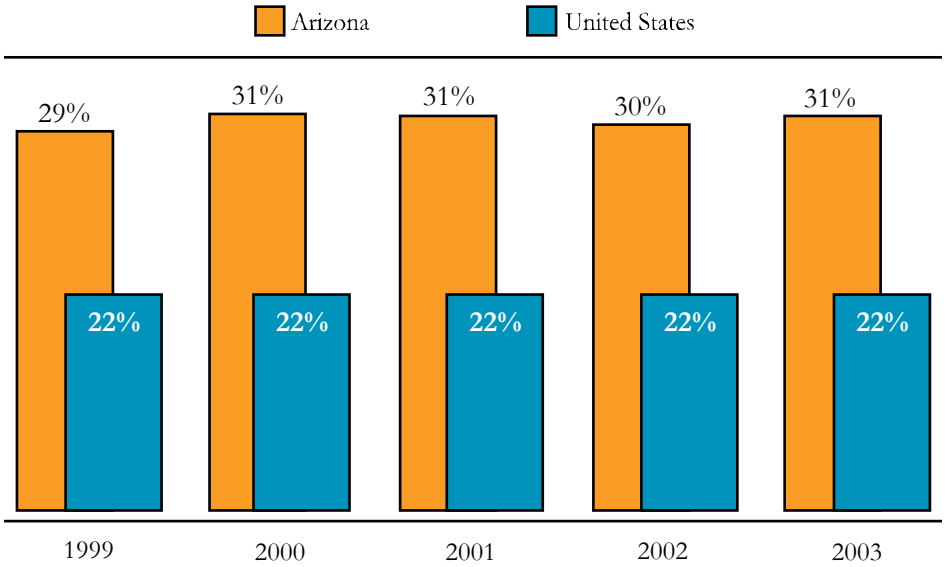
Parents and family are a child's first teachers, but parents benefit from additional skills and information that help them raise healthy children. Culturally sensitive, community-based efforts exist to educate and inform families in the critical areas of literacy, brain development, health and wellness and the importance of early learning. These programs, along with state and local government programs, are necessary and important links in a statewide system of school readiness supports. Any measurement of family readiness must look at the larger picture of how well *all* Arizona families are doing in preparing their children for first grade.

Parent Education Level

The home environment is of paramount importance in how a child develops socially, emotionally, physically and cognitively. Young children who have a stable, nurturing home environment are more likely to be ready for school. When young children are talked to, read to, and played with often by parents, family and caregivers, their brains are stimulated and rich neural networks are built. Conversely, children who lack developmentally enriching home environments are at increased risk for reduced cognitive growth, low social and emotional adaptability to school, and grade retention.[54]

Parents with a high school diploma or more education are more likely to provide an enriching home environment for their children. In numerous studies, a mother's educational level has proven a strong and consistent predictor of the well-being and future academic achievement of her children,[55] and is useful as a predictor of home environment situations.[56] For instance, mothers without a high school diploma are less likely to engage their three to five year olds in enriching activities such as arts and craft play and visiting the library.[57] Children whose mothers did not graduate from high school are less ready for school and score lower than other children on achievement tests in later grades.[58] In contrast, kindergartners whose mothers have more education are more likely to score high on early tests of math and reading skills.[59] Over a third of Arizona births are to women with less than a 12th grade education.

Percentage of Births to Mothers With Less Than a 12th Grade Education



Source: Arizona Department of Health Services, Vital Statistics Division, Table 5B-13 for 2003, 2002, 2001, 2000 and Table 1B-34 from 1999 Arizona Health Status and Vital Statistics Report. U.S. Department of Health and Human Services, National Vital Statistics Reports for years 2000, 2001, 2002, 2003, and Table 1-27, "Selected Birthweight Characteristics of Live Births by Educational Attainment, Age, and Race and Hispanic Origin of Mother: United States, 1999."

Key Performance Indicators

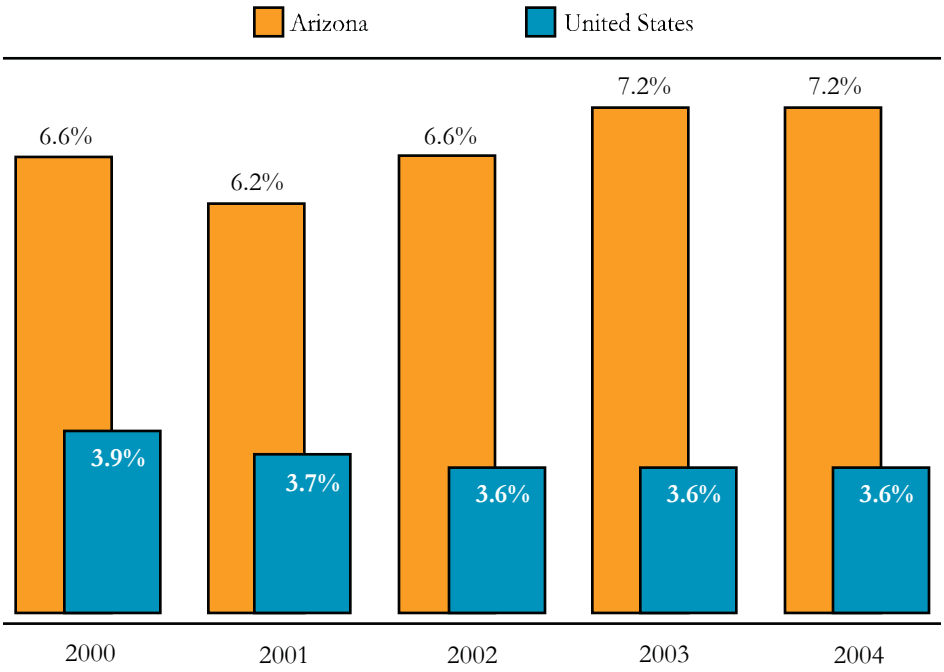
Healthy Prenatal Care

It is important that expectant mothers see their health care professional regularly and that families support their efforts to have a safe, healthy pregnancy. Good prenatal care reduces the likelihood of delivering a low birth weight or premature baby.[60] Women who do not receive early and consistent prenatal care are more than twice as likely to deliver a pre-term baby[61] and three times as likely to have a low birth weight baby.[62] In 2004, over 6,700 Arizona mothers did not see a health care professional about their pregnancy until the last trimester or had no prenatal care at all.[63]

Children who are born prematurely do not score as well as their peers on tests of cognitive ability, often have social-emotional difficulties at school age, and are over 2.5 times more likely to develop attention deficit hyperactivity disorder (ADHD) than children who are born full term.[64] Babies, whether premature or full-term, are also negatively impacted by low weight at birth. Children born with low birth weight are more likely to suffer developmental delays than normal weight babies.[65]

The problems low birth weight and premature infants face at birth impact their later school performance. Premature and low birth weight children are fifty percent (50%) more likely to be enrolled in special education than their normal birth peers[66] and to be a grade behind the academic level appropriate for their age.[67] In the long run, very low birth-weight children are *more likely* to score poorly on standardized tests[68] and are *less likely* to graduate from high school or enroll in college than normal birth weight children.[69] The percentage of births to Arizona mothers who receive late or no prenatal care is twice the national rate.

Percentage of Births to Mothers Who Received Late or No Prenatal Care



Source: National Center for Health Statistics, National Vital Statistics Reports, Births: Final Data for 2000, 2001, 2003 and Preliminary Births for 2004: Infant and Maternal Health. Arizona Department of Health Services, Table 5B-11, "Births by Trimester of Pregnancy Prenatal Care Began and Mother's County of Residence", Arizona, 2004, 2003, 2002, 2001, 2000.

Well-Child Check Ups

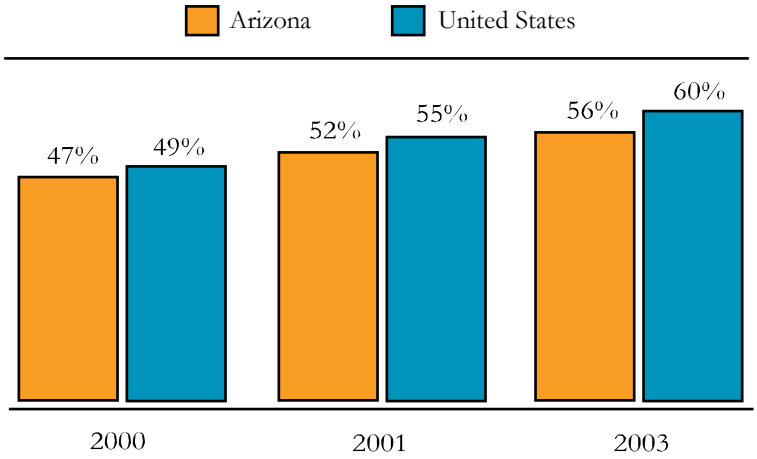
Part of being ready for school is being healthy enough to get to class, pay attention, and become engaged in the lessons. Young children in poor health have difficulty concentrating, are too fatigued to participate in activities, may be disruptive or withdrawn in class, and miss days at preschool and kindergarten. Chronic health problems, undiagnosed impairments, and exposure to diseases present barriers to social-emotional development, physical growth, and cognitive progress.

Behavioral, developmental, social-emotional and physical delays in infancy and early childhood negatively affect school readiness and later school performance. Developmental delays and behavioral disabilities such as autism, cognitive retardation, and attention deficit hyperactivity disorder profoundly impact a child's ability to learn. The Center for Disease Control estimates that seventeen percent (17%) of children have a behavioral disability or developmental delay.[70]

Young children can also suffer from hearing impairments that affect a child's ability to learn language and speech, which in turn reduces the child's ability to develop communication skills and interact successfully with family members and schoolmates.[71] Some children have undiagnosed allergies, asthma, and other chronic health conditions that make it difficult to concentrate or even come to school. Well-child checkups and screenings for hearing and visual impairment, physical growth progress, and developmental delays are imperative to ensure children are healthy and maturing as expected.

Although the percentage of Arizona's Medicaid eligible children ages three to six receiving an annual well-child checkup is below the national average, the percentage has improved by nine percent (9%) since 2000.

Percentage of Medicaid Eligible Children Ages 3-6 Years Receiving an Annual Well-Child Checkup



Source: Arizona Department of Health Services and the Arizona Health Care Cost Containment System Quality Management Performance Measures reports for the measurement periods ending September 2003 and September 2002; and the National Center for Quality Assurance, National Medicaid Results for Selected 2000 HEDIS® and HEDIS/CAHPS® Measures.[72]

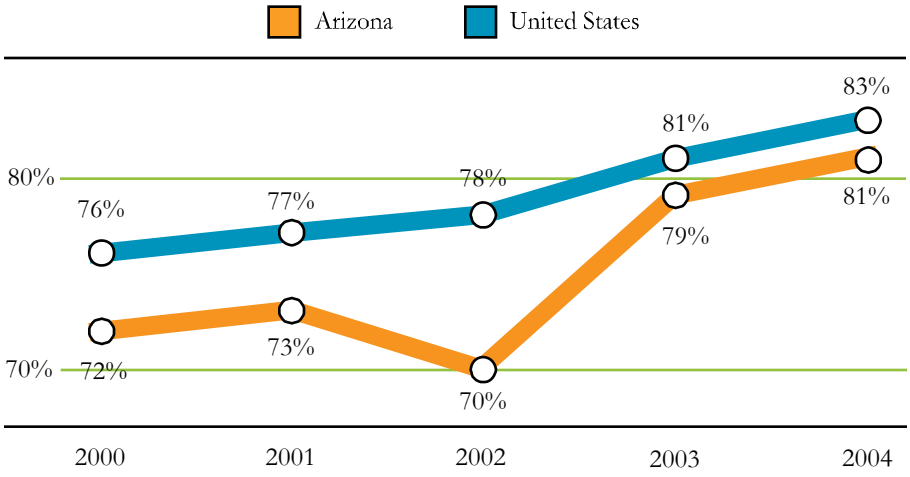
Key Performance Indicators

Immunizations

Young children are at risk of contracting several preventable diseases that can cause severe illness, permanent handicaps and death. Even chickenpox, considered an inconvenience of childhood by some, can cause intense discomfort and pain and keep a child from attending school or early childhood education programs for up to two weeks. Some preventable diseases, such as *Haemophilus influenzae* type b, are most prevalent among children under age five.

Up-to-date immunizations protect the child, the child's family and his or her classmates. In Arizona, children must have the required immunizations to attend school or licensed child care, yet all young children do not receive their recommended immunizations. In 2004, nineteen percent (19%) of Arizona's three-year-old toddlers had not received the recommended vaccines. The percentage of Arizona children ages 19-35 months who are fully immunized has increased by eleven percent (11%) since 2000.[73]

Percentage of Children 19-35 Months of Age Who Are Fully Immunized



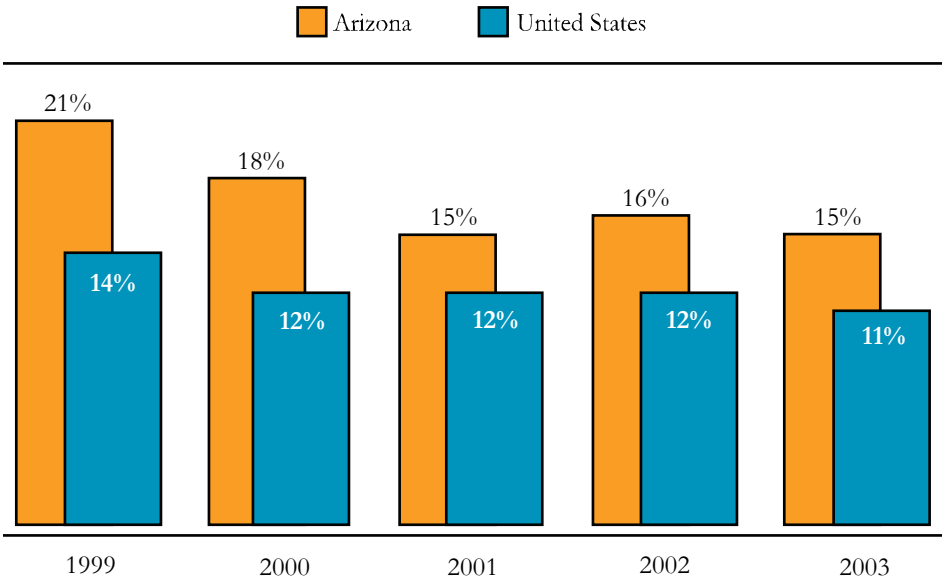
Source: National Center for Health Statistics. (2005) Table 78, Vaccination coverage among children 19-35 months of age according to geographic divisions, State, and selected urban areas: United States, 1995-2005. Health, United States, 2005. U.S. Department of Health Services, Center for Disease Control.

Children Ages Birth to Five Years Without Health Insurance

Health insurance coverage is a main determinant of whether young children get the screenings, check ups, and medical care they need to be healthy and ready for school. Simply put, children covered by health insurance, whether public or private, get more health care than children without insurance. Parents who have no health insurance for their children are more than twice as likely to avoid taking their children for any kind of health care visit, including well-child checkups, than parents whose children are insured either privately or through a public program.[74] Uninsured children are less likely to have a primary care physician and are more likely to go without needed medical care[75] for both periodic and chronic health conditions.[76] Children without health insurance are also 2.5 times less likely to see a dentist regularly than insured children.[77]

Fifteen percent (15%) of Arizona's children had no health insurance coverage in 2003.[78] That same year, nineteen percent (19%) of Arizona parents reported their children's health as being less than very good.[79]

Percentage of Children Ages Birth to Five Years Without Health Insurance



Source: "Children 17 and below without health insurance by age group." Kids Count Online

Ready Programs and Schools

Parents want to make decisions based on what is best for their children but realistically, parents must work. Most Arizona parents are in the workforce. Sixty-five percent (65%) of Arizona households with children are two parents homes where both parents work or single parent homes where the only parent works.[80]

Working parents must arrange care for their children while they work and when the child is not in school. For children ages birth to five, a working parent needs care for their child for the duration of the work day. Some Arizona parents have family members and friends care for their children while they work. Other parents use some form of non-relative child care. In Arizona, non-relative early childhood education needs are served by various types of providers. Early childhood education providers may be home-based, center-based, or housed at public schools. Early childhood education programs may be for-profit, not-for-profit, public, faith-based or a combination. Quality varies among early childhood education providers, with some providing high-quality programs that enhance child development while others provide only basic services.

The environments children are in while parents work affects later success. Because the time from birth to kindergarten is period of intense cognitive, physical, social and emotional development, the quality of the environments young children are in during this time is vitally important. Basic child care may be safe, but high-quality early learning experiences foster the cognitive growth and social-emotional development that helps children succeed in first grade. Children enrolled in high-quality, early childhood education programs score better on measures of language and early academic skills than their peers who attend lower quality child care.[81] Arizona children should have access to affordable, high-quality, early learning settings so that all children have an equal opportunity to succeed.

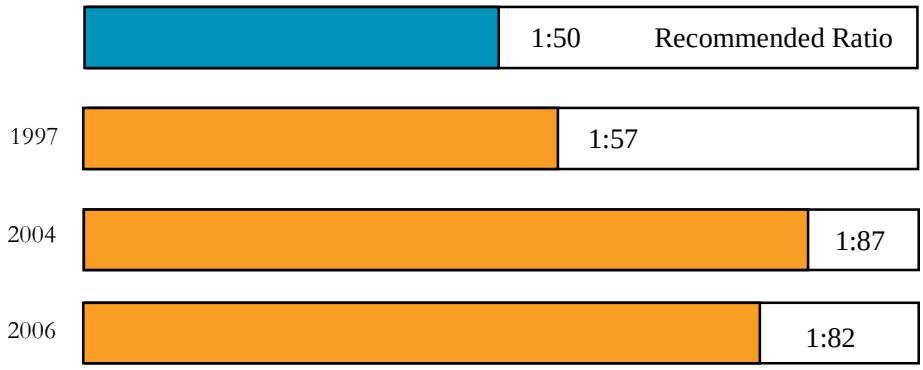
Licensing

Licensing is the minimum standard for child care providers. The Arizona Department of Health Services(ADHS) is charged with the vital function of ensuring that child care facilities meet basic safety, health and operational requirements. In 2004, ADHS completed nearly 2100 child care facility inspections.[82] Inspections include both child care centers and small group homes.

The Arizona Department of Health Services makes every effort to ensure child care facilities are inspected regularly; however, the case loads for child care licensing surveyors are high. In 2004, ADHS child care licensing had case loads of 87 programs per surveyor. The National Association for the Education of Young Children (NAEYC) recommends child care licensing surveyors have a case load of no more than 50 facilities.[83]

In order to alleviate the case load burden, Governor Napolitano and the Legislature secured an additional $400,000 in the FY 2007 budget for Arizona Department of Health Services, Office of Child Care Licensing. The funding includes 8.5 additional employees, bolstering the Department's ability to conduct timely and thorough child care facilities inspections. The child care licensing surveyor ratio for CY 2006 is eighty-two (82) cases per surveyor, including pending licensure applications.[84]

Ratio of Child Care Licensing Surveyors to Case Load



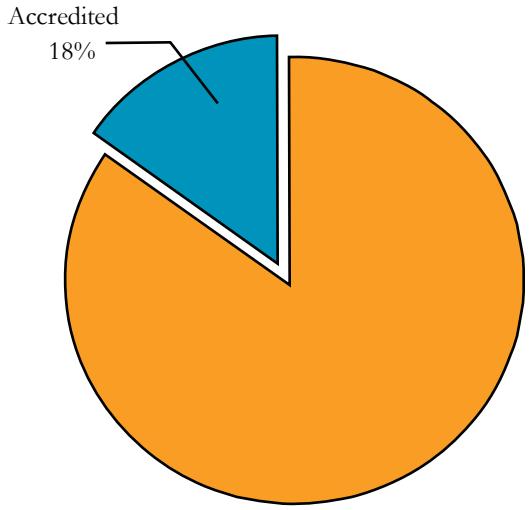
Source: Arizona Department of Health Services
Note: Reported ratios are 'snapshot' data, not a yearly average.

Accreditation

Voluntary accreditation from a national accrediting organization is one factor in determining the quality of early childhood education settings. Accredited early childhood education providers are more likely to be of higher quality than unaccredited providers.[85] Accrediting organizations expect their members to conform to standards that exceed the basic operational, health and safety measures required for state licensure. Centers and small group homes wishing to obtain or maintain accreditation must comply with quality assurance procedures and policies and undergo periodic validation or inspection by the accrediting organization.

The Arizona State Board of Education accepts accreditation from the following organizations for programs participating in the Early Childhood Block Grant: Association Montessori Internationale, the National Association for the Education of Young Children, the National Early Childhood Program Accreditation Commission, the Association for Christian Schools International, the American Montessori Society, and the National Accreditation Commission for Early Care and Education.[86] In 2006, only eighteen percent (18%) of Arizona's licensed child care facilities were accredited through one of the six organizations accepted by the Arizona State Board of Education.

Percentage of Licensed Child Care Facilities That Are Accredited



Licensed Child Care Facilities

Source: Arizona Department of Health Services, Child Care Licensing Division; and public data gathered from Association Montessori Internationale, National Association for the Education of Young Children, National Early Childhood Program Accreditation Commission, Association for Christian Schools International, American Montessori Society, and the National Accreditation Commission for Early Care and Education websites.
Note: Figures are snapshot data from Arizona Department Health Services, August 2006 and snapshot data gathered from the accrediting organizations for August 2006.

Early Childhood Block Grant Program

There are two primary, publicly funded, early childhood education program sources in Arizona: those funded through the Early Childhood Block Grant (ECBG) state funds and those funded by Head Start and Early Head Start federal funds. For low-income families, obtaining high-quality, early childhood education for their children is most often achieved through a publicly supported program like Head Start and ECBG preschools.

The Early Childhood Block Grant (ECBG) awards funds to school districts and charter schools. ECBG grantees may then use the money to provide preschool, either on site or through a private provider, to children who qualify for reduced or free school lunches per the U.S. Department of Agriculture guidelines. Children age 4 years living in families who earn 185% or less of the federal poverty line are eligible to attend ECBG funded preschool programs under the guidelines. In 2005, over 5,000 Arizona children were enrolled in ECBG funded preschool programs. Enrollment in ECBG funded preschool programs has increased by nineteen percent (19%) since 2003.[87]

ECBG grantees may also use ECBG funding to supplement full-day kindergarten funding, or to supplement academic programs in half-day kindergarten through third grade.[88] There is no means test for kindergarten through third grade children receiving services funded with ECBG monies. During 2005, nearly 5,700 children were enrolled in full-day kindergarten programs supplemented by ECBG. Over 67,000 children attending half-day kindergarten through third grade were in programs supplemented by ECBG funding during 2005.

The quality of ECBG funded programs is enhanced by required compliance with several conditions. In addition to state licensure, ECBG funded

	ECBG Funding Levels 2000 - 2005			
	Preschool	Supplementing Full-day Kindergarten	Supplementing Half-day Kindergarten to Grade 3	Total ECBG Funding
2000	$10,363,524	$2,865,375	$5,709,046	$18,937,945
2001	$9,828,076	$2,963,226	$6,227,361	$19,018,663
2002	$9,759,768	$3,024,243	$6,309,489	$19,093,500
2003	$9,953,752	$3,359,757	$5,748,002	$19,061,511
2004	$10,178,791	$2,720,311	$6,106,405	$19,005,507
2005	$11,530,314	$2,276,324	$6,245,992	$20,052,630

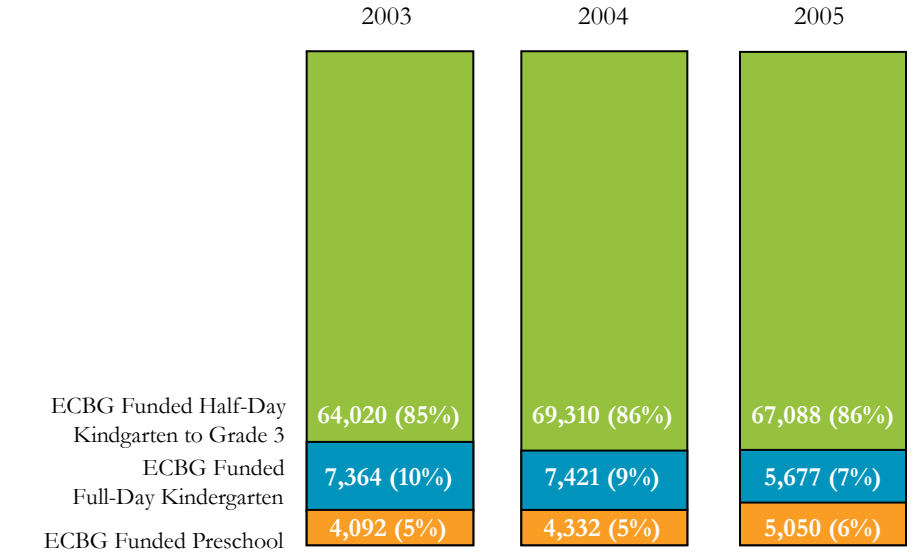
Source: Arizona Department of Education
Note: 2003, 2004 and 2005 monetary figures do not include a small amount of funding reserved for new charter schools.

programs must be accredited (or in the process of obtaining accreditation) through one of the accrediting organizations approved by the Arizona State Board of Education. ECBG funded programs must also comply with the Arizona Early Learning Standards (or the Arizona Academic K-3 Standards if serving older children), must conduct assessments of the children enrolled in the program in order to better serve those children, and must undergo monitoring and assessment of program activities.[89]

Arizona received $19 million in ECBG for each year from 2000 through 2004. In 2005, Arizona received $20 million in ECBG funding. Schools used fifty-seven percent (57%) of the 2005 ECBG monies for preschools, eleven percent (11%) was used to supplement full-day kindergarten programs, and thirty-one percent (31%) was to used supplement academic programs for students in half-day kindergarten through third grade.[90]

Number of Children Enrolled in ECBG Preschools

Enrollment By Category and
Percentage of Total ECBG Funded Enrollments By Category



Source: Arizona Department of Education
Note: The Arizona Department of Education does not collect separate enrollment information for ECBG funded half-day kindergarten. Half-day kindergarten is included with figures for ECBG funding used to supplement kindergarten through third grade programs.

Head Start/Early Head Start Enrollment

Head Start and Early Head Start are comprehensive child development programs that serve children ages birth to five years, pregnant women, and their families. Head Start provides early childhood education programs for children ages three to five years with the goal of increasing school readiness. Early Head Start promotes healthy prenatal outcomes for pregnant women, enhances the development of very young children ages birth to three, and promotes healthy family functioning.

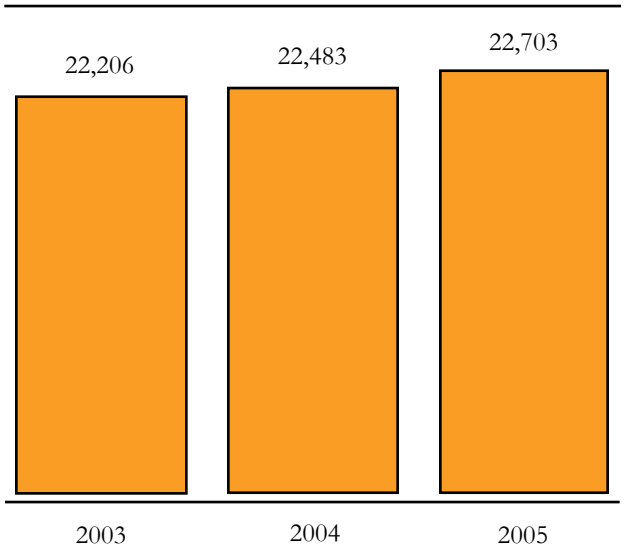
Eligibility for Head Start and Early Head Start is primarily for children from families earning at or below 100% of the federal poverty line. Children from families receiving public assistance (TANF or SSI) and children in foster care are eligible, regardless of family income. Ten percent of enrollments are offered to children with disabilities. Children from families with incomes higher than 100% of the federal poverty line may be able to participate in Head Start and Early Head Start when space is available

Grants to operate Head Start and Early Head Start programs at the community level may be awarded to public agencies, private organizations, school systems, and Indian Tribes.

Head Start and Early Head Start ensure program quality by requiring grantees adhere to the Head Start Program Performance Standards. These standards set expectations and requirements for Head Start grantees. Head Start grantee programs are monitored to ensure Head Start goals are being met and quality services are being provided.

In 2005, there were 22,703 Arizona children enrolled in Head Start and Early Head Start. The number of Arizona Head Start and Early Head Start child enrollments, increased by two percent (2%) from 2003 to 2005.[91]

Number of Children Enrolled in Head Start or Early Head Start Programs



Source: Head Start Bureau, U.S. Department of Health and Human Services.
Note: Figures include Head Start and Early Head Start grantees, delegate agencies, Migrant and Seasonal Farm Workers grantees, and Tribal program grantees.

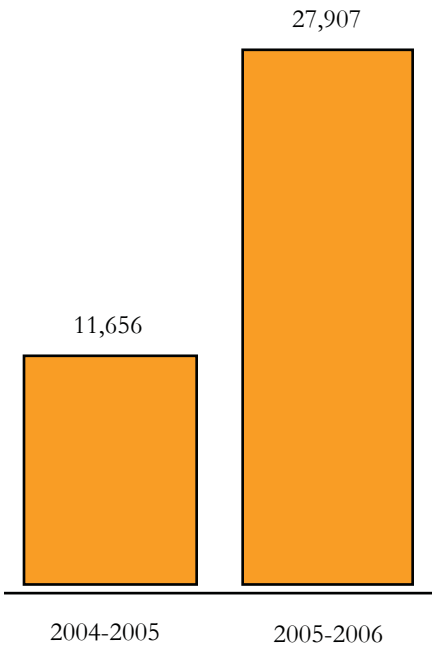
Voluntary, State-Funded, Full-Day Kindergarten

Children attending full-day kindergarten are significantly better readers at the end of the school year than children attending half-day kindergarten and also make bigger gains in mathematics.[92] The increased academic benefits of full-day kindergarten continue well into the second grade and full-day kindergarten attendance is linked to lower chances of grade retention. Some studies have also found greater improvements in social skills[93] and behavior for children enrolled in full-day kindergarten. Among other social and emotional benefits, children in full-day kindergarten have been found to be less anxious in class, less withdrawn, more involved in classroom activities, and more productive when working in groups than children in half-day kindergarten.[94]

Arizona public schools receive state funding for and are required to provide only voluntary, half-day kindergarten. With the passage of SB 1405, Arizona school districts and charter schools throughout Arizona may also offer parents the choice of sending their children to voluntary, state-funded, full-day kindergarten.

The number of Arizona children enrolled in voluntary, state-funded, full-day kindergarten increased forty-one percent (41%) from school year 2004-2005 to school year 2005-2006.

Number of Children Enrolled in Voluntary, State-Funded, Full-Day Kindergarten



Source: Arizona Department of Education
Note: Figures are for voluntary, state-funded, full-day kindergarten. Figures do not include any students who were enrolled in other full-day kindergarten programs provided through other fiscal resources such as Title I, K-3 overrides, Early Childhood Block Grants, etc. Because full-day kindergarten was not funded by the State of Arizona until 2004, the Arizona Department of Education (ADE) did not build the capability of differentiation between half-day and full-day kindergarten enrollments into the student level data collection system. ADE makes the assumption that enrollments for state-funded, full-day kindergarten schools are for full-day enrollments.

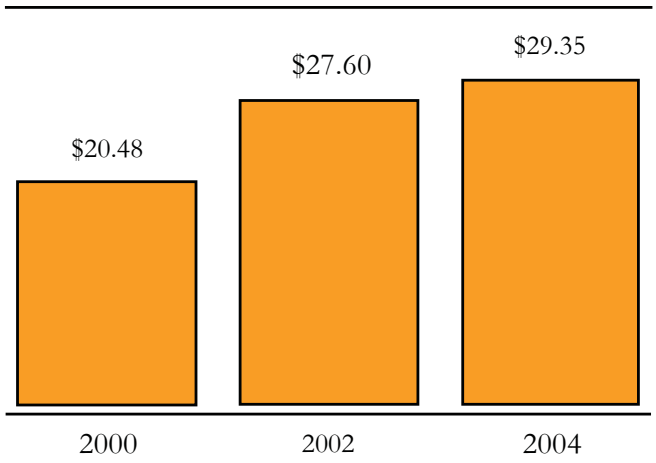
Cost of Child Care

Access to affordable, reliable, quality child care allows parents to work and children to benefit socially, emotionally, developmentally, and academically. In 2004, there were over a quarter of a million Arizona children under age six with *both* parents or their *only* parent in the workforce.[95] Parents most often leave their youngest children in the care of a relative, but many parents use other types of child care because of reliability, availability and quality issues. Over a third of preschoolers spend their day in out-of-home, non-relative care.[96]

Workforce participation of parents is significantly hindered by the lack of affordable,[97] reliable, quality child care. Poor families spend about a fourth of their wages on child care and all families, regardless of economic level, pay a higher percentage of their wages toward child care for preschoolers than for school-age children.[98] Parents who cannot afford reliable, quality child care are forced to cobble together a tenuous jumble of informal care, relatives, and friends to care for their young children while they work. When child care arrangements break down, parents are late to work, must leave early, exhaust medical leave or vacation days (if available), or take unpaid leave.[99] Lack of formal child care arrangements is associated with parents dropping out of the workforce,[100] and, in the case of low-income families, may prevent parents from retaining their current jobs or from entering the workforce at all.

The Arizona Department of Economic Security (DES) provides child care assistance for families with incomes up to 165%

Average Daily Charge for a Full Day of Care, for a Three-Year-Old, at a Child Care Center



Source: Arizona Department of Economic Security
Note: Daily rates presented are based on the 75th percentile of 2000, 2002, and 2004 Child Care Market Rate Surveys, and are the averages of costs in Districts 1 – 6, for a full day of care, for a 3 year old child enrolled in a center-based facility.

of the poverty line who have children 12 years old or younger. Parents must be employed, attending job training or school, residing in a shelter, unable to care for a child due to a disability, participating in a rehabilitation or drug treatment program, participating in community service, or eligible under a foster care plan or Child Protective Services to qualify for the subsidy. DES pays all or part of child care up to a set rate depending on the eligible families' income, age of the children, and which program the family is qualified for. Families usually must pay a co-payment, based on family income, and any difference between the DES subsidy rate and the actual rate their child care provider charges.[101]

In 2005, Governor Napolitano secured state appropriations of $11.2 million to eliminate the child care waiting list and pay for the increased number of families in need of child care subsidies. The FY 2007 State budget included a $7.9 million increase to move the DES child care assistance subsidy to the 2000 market rate beginning July 1, 2006. The subsidy increases the amount DES can pay child care providers, but the rate is still six years behind the actual market cost of child care.

The actual cost of child care has grown faster than the incomes of parents. From 2000 to 2004, the daily charge for a full day of care for a three-year-old child at a licensed child care center rose forty-three percent (43%).[102] During the same time period, the average annual salary for Arizonans increased only a little over twelve percent (12%).[103] At 2004 prices, full time child care costs Arizona parents anywhere from $3,900 to $8,580 per year.[104] A year's regular, undergraduate resident tuition at one of Arizona's state universities is less than $5,000.[105]

Ready Teachers

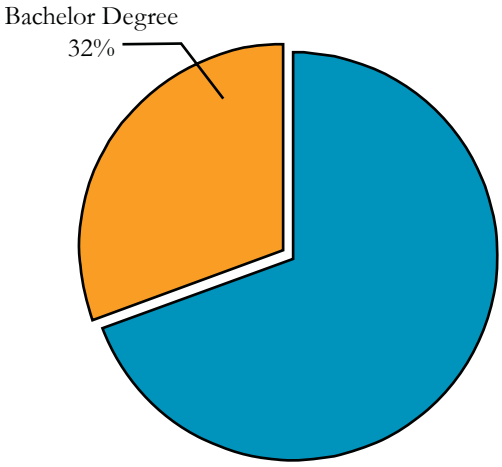
High-quality, early childhood education is one of the most effective strategies for ensuring children begin school ready to succeed. Children who attend high-quality, early childhood education programs get betters scores on standardized tests, are held back a grade less often, and have fewer behavioral problems than children who do not attend high-quality, early childhood education programs. Well-qualified, experienced, early childhood education teachers are the primary component of high-quality, early childhood education programs. Unfortunately, while demand for well-qualified, experienced, early childhood education teachers continues to grow, the early childhood education field provides few incentives for professionals to remain in the business. The lack of qualified early childhood education teachers makes it difficult for programs to maintain quality. Building a pool of well-qualified early childhood education teachers and retaining them in the field is a key to elevating the overall quality of early childhood education.

Early Childhood Education Teacher Credentials

Education level and specialized training in early childhood education determine the teaching quality a child will receive from his or her teacher. Children who attend an early childhood education classroom with a well-qualified teacher score better on cognitive tests, have more developed language abilities,[106] are more adept at social interactions, and have fewer behavioral problems. Developmental enhancements for children are highest when their early childhood education teacher has a bachelor degree.[107]

Despite the importance of well-qualified, early childhood education teachers in providing high-quality instruction, the education level of early childhood education teachers has actually declined over the last two decades. In the mid-1980s approximately forty-three percent (43%) of early education teachers had at least a bachelor degree, but many of those well-qualified early childhood education professionals have retired or left the field.[108] Nationally, about thirty-three percent (33%) of early childhood teachers at center-based providers have a bachelor degree.[109] The educational attainment of Arizona's early childhood education workforce mirrors national trends, with only thirty-two percent (32%) of Arizona's early childhood education teachers having a bachelor degree.[110]

Percentage of Early Childhood Education Teachers With a Bachelor Degree



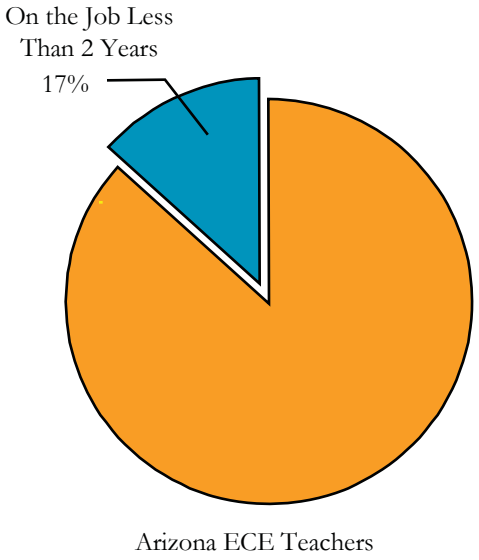
Source: *Compensation and Credentials: A Survey of Arizona's Early Education Workforce*

Early Childhood Education Teacher Turnover

Staff turnover negatively impacts both early childhood education programs and the children in those programs. High staff turnover is closely linked with low quality. Turnover contributes to burnout among staff and is disruptive for parents and children. Children at centers with unstable staff are put at a disadvantage developmentally. Children attending early childhood education programs with high staff turnover rates have fewer language skills and lower levels of social development than children in more stable centers.[111]

Staff turnover in the early childhood education field is adversely high. A third of all early childhood education staff change jobs each year. About half of early childhood education teachers who change jobs leave to work in another industry.[112] Due to the shortage of well-qualified early childhood education teachers, competent staff who leave for other jobs or exit the industry are often replaced with less educated, inexperienced staff or cannot be replaced at all. The National Childcare Staffing Study found that over half of center-based early childhood education providers were unable to replace all the staff they had lost the previous year.[113] In Arizona, seventeen percent (17%) of early childhood education teachers and thirty-two percent (32%) of assistant early childhood education teachers have been on the job for less than two years.[114]

Percentage of Early Childhood Education Teachers on the Job Less Than 2 Years



Source: *Compensation and Credentials: A Survey of Arizona's Early Education Workforce*

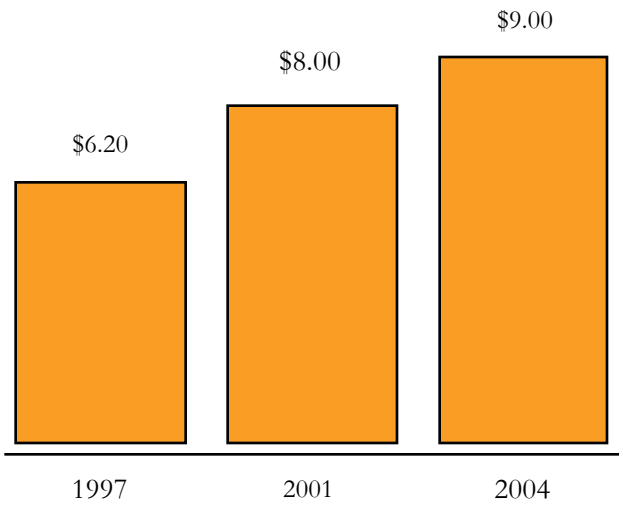
Early Childhood Education Teacher Compensation

The education level of early childhood education teachers and job turnover strongly impact early childhood education, but teacher pay is more closely associated with the quality of early childhood education programs than any other factor.[115]

Low pay contributes to staff turnover and lowers program quality, creating a cycle of instability. The lowest paid early childhood education teachers are two times more likely to change jobs or leave the field than their better paid colleagues.[116] Higher paid early childhood education teachers are less likely to change jobs or leave the field; however, at a median starting wage of $7.50 per hour and a median highest salary of $11.00 per hour for an experienced staff member, many early childhood education teachers have difficulty staying on the job—especially when higher paid positions with better benefits are available in other industries. Early childhood education teachers who leave the early childhood education field for jobs in other industries earn significantly more than early childhood education teachers who change jobs but stay in the field.[117]

Nationally, the median average hourly wage for an early childhood education teacher is $10.57.[118] In 2004, the median average hourly wage for an Arizona early childhood education teacher was $9.00 per hour, or $18,720 per year before taxes…a salary $130 below the federal poverty line for a family of four.[119]

Median Average Hourly Wage For Early Childhood Education Teachers



Source: *Compensation and Credentials: A Survey of Arizona's Early Education Workforce*

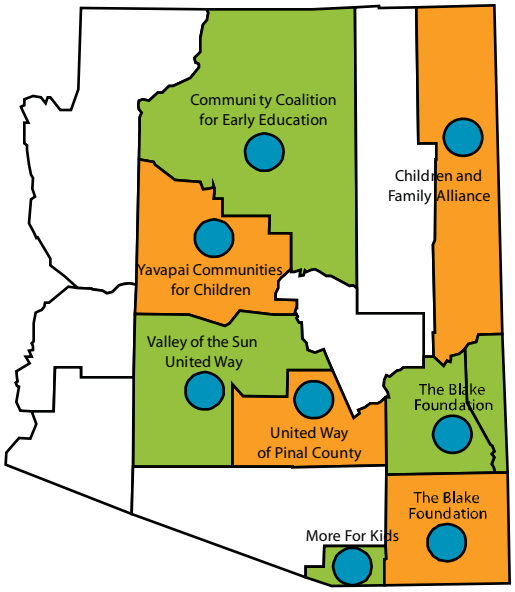
Community Efforts

Ready Communities

Community Public-Private Partnerships

Strategies to ensure children begin first grade safe, healthy and ready to succeed are contingent on the full engagement of communities. Local leaders, advocates, governments, and parents know the needs of their particular communities best and are most able to bring about positive changes at the grassroots level. In order to build a statewide system of supports for school readiness, public-private partnerships must be built at the local level.

AEEFs Community Assessment and Planning, Capacity Building, and Program Enhancement Grants



Source: The Arizona Community Foundation

In 2005, the Arizona Early Education Funds (AEEFs) were established at the Arizona Community Foundation, in conjunction with the Tucson Community Foundation and the United Way of Tucson and Southern Arizona, to help communities statewide build the quality and capacity of early childhood education programs for children ages birth to five years. The Funds were established with the support of Governor Napolitano and the State School Readiness Board with the purpose of enhancing the early learning experiences of Arizona's children through the implementation of the State School Readiness Board's Action Plan. The Funds award regional partnership grants to improve and enhance the quality of early childhood education at the community level.

In 2006, the AEEFs awarded six grants to local-level partnerships. A donation from Phelps Dodge Corporation extended the number of partnership grant awards to eight. The partnerships will focus on parent education, early literacy, professional development and education for early childhood education teachers, and quality improvements.

Public Awareness

Complementing the work of communities, state and local governments, advocates, educators, caregivers and parents to build supports for quality early childhood education, is the need to educate the public about the value of high-quality, early childhood education. Efforts are underway in Arizona to increase public awareness of the importance of early brain development and high-quality early learning.

You're It! is a statewide campaign, initiated by Partners for Arizona's Children, to raise public awareness and engagement around the importance of investing in children. Partners for Arizona's Children, a public-private partnership of thirty-two organizations, including the United Ways of Arizona, focuses on educating and mobilizing communities toward ensuring all Arizona children have the resources they need to be healthy, happy, and begin school ready to learn and succeed.

Ready to Learn, an initiative begun by the Mesa United Way in 2001, partners with businesses, state and local governments, schools and other service organizations to bring information about the importance of early brain development to parents, caregivers and the community.

Born Learning, under the banner of the United Ways of Arizona, is a related public engagement campaign focusing on raising awareness about quality early learning experiences through broadcast commercials and print advertising.

The Arizona Parent Kits, developed by The Virginia G. Piper Charitable Trust in conjunction with the University of California, Berkley, are a free resource distributed to new parents in Maricopa County through St. Joseph's Hospital and Banner Desert Medical Center. The Parent Kits are designed to educate parents about the developmental needs of young children. Distribution of the Parents Kits outside Maricopa County is provided through the Child Abuse Prevention License Plate program fund.

The New Directions Institute for Infant Brain Development provides fact-based, high-quality, accessible training on early brain development for parents and caregivers. New Directions professionals also make presentations to business, government and community leaders in order to increase awareness of the importance of early brain development. New Directions puts greatest emphasis on development from birth to three years when a child's brain is growing most rapidly.

Conclusions

When measuring systems, statistics are useful only when placed in context. Periodic, sequential data allows for trend analysis. A comparison figure, such as a national average, gives us a benchmark by which to measure our progress.

For most of the Key Performance Indicators there is a enough sequential data and a reliable comparison figure; however, for some of the indicators, especially those regarding early childhood education teachers, DIBELS scores, and some facets of the child care industry in Arizona, the data is not as rich.

Bearing in mind the limitations of some data, the following can be concluded from an examination of the Key Performance Indicators:

- Many Arizona children do not begin school with the basic early literacy skills they need to succeed academically and continue to have difficulty with reading skills throughout elementary school, as suggested by their performance on standardized reading tests.

- In the last five years, Arizona has made significant gains in increasing the percentage of young children who get recommended immunizations, receive well-child checks, and who are covered by health insurance; however, Arizona still lags behind the nation in these measures of child well being, indicating that emphasis and commitment toward improving the health of young children should continue and be strengthened.

- Less than a fifth of Arizona licensed child care facilities are accredited by a recognized accrediting body and only about a fourth of eligible, lower-income children are enrolled in Head Start and Early Head Start or an Early Childhood Block Grant funded preschool suggesting that high-quality, early childhood education programs are not available for all parents who want them.

- Enrollment in voluntary, state-funded, full-day kindergarten more than doubled from the 2004-2005 school year to the 2005-2006 school year, connoting parents eagerness to take advantage of enhanced learning opportunities for their children.

- The average cost of child care has risen faster than the incomes of parents, and is a significant expense for families, yet measures of program quality such as teacher education levels, staff stability, and teacher pay, have not improved proportionate to fees. Early childhood education providers should be afforded resources to enhance program quality.

- Low pay, high turnover, and lack of qualified staff plague the early childhood education field on a national level and continue to apply to Arizona's early childhood education teachers. Efforts to improve the education, retention and pay of Arizona's early education teachers should be continued and enhanced.

Endnotes

1. Majoviski, L.V. (1997) Higher brain functions in children: Neural, cognitive and behavior perspectives. In E. Fletcher-Janze, C.R. Reynolds, R. Indrajit (Eds.), *Handbook of clinical neuropsychology* (2nd ed., pp. 63-101). New York: Springer Publishing.

2. Greenough, W.T., Black, J.E., & Wallace, C.S. (1987). Experience and brain development. *Child Development*, 58 (3), 539-559.

3. Halfon, N., Shulman, E. & Hochstein, M. (2001). *Building community systems for young children*. Los Angles: UCLA Center for Healthier Children, Families and Communities.

4. Campbell, F.A. & Ramey, C.T. (1994). Effects of early intervention on intellectual and academic achievement: A follow-up study of children from low-income families. *Child Development*, 65(2), 684-698.

5. Kurdek, L. & Sinclair, R. (2000). Psychological, family and peer predictors of academic outcomes in first-through fifth grade children. *Journal of Educational Psychology,* 92(3), 449-457.

6. Xiang, Z., & Schweinhart, L.J. (2002). *Effects five years later: The Michigan school readiness evaluation through age 10*. Ypsilanti, MI: High/Scope Educational Research Foundation.

7. Schweinhart, L.J. (2004) *The High/Scope Perry preschool study through age 40: Summary, conclusions and frequently asked questions*. Ypsilanti, MI: High/Scope Educational Research Foundation.

8. Reynolds, A.J., Temple, J.A., Robertson, D.L. & Mann, E.A. (2001). Long-term effects of an early childhood intervention on educational achievement and juvenile arrest: A 15-year follow-up of low-income children in public schools. *Journal of the American Medical Association*, 285(18), 2339-2346.

9. Blair, C. (2003, July) Self-regulation and school readiness. *ERIC Digest*, 1-2. EDO-PS-03-7. Retrieved May 24, 2006 from http://ceep.crc.uiuc.edu/eecearchive/digests/2003/blair03.pdf.

10. Blair, C. (2002). School readiness: Integrating cognition and emotion in neurobiological conceptualization of children's functioning at school entry. *American Psychologist*, 57(2), 111-127.

11. Normandeau, S. and Guay, F. (1998.) Preschool behavior and first-grade school achievement: The mediational role of cognitive self-control. *Journal of Educational Psychology,* 90(1), 111-121.

12. Xiang, Z. & Schweinhart, L. (2002). See endnote 6.

13. Reynolds, A.J., et al.(2002). See endnote 8.

14. Schweinhart, L.J. (2004). Send endnote 7.

15. Shonkoff, J. P., & Phillips, D. (Eds.) (2000). *From neurons to neighborhoods: The science of early child development*. Washington, DC: National Academy Press.

16. Reidy, M. (2002, September). Guiding principles for selecting child indicators: Reflections from the child indicators project. *Advancing States' Child Indicators Initiative*. U.S. Department of Health and Human Services. Retrieved June 16, 2006 from http://aspe.hhs.gov/hsp/cyp/child-ind98/keythemes/guiding-principles-for-selecting-ind.htm.

17. *State and County QuickFacts*. [Data file]. Washington, DC: U.S. Census Bureau. Retrieved June 19, 2006 from http://quickfacts.census.gov/qfd/states.

18. *American Community Survey 2004*. S0701 Geographic mobility by selected characteristics-Arizona, United States. [Data file]. Washington, DC: U.S. Census Bureau. Retrieved June 20, 2006 from http://factfinder.census.gov/home/saff/main.html. "Foreign born" excludes people born outside the U.S. to parents who are U.S. citizens.

19. *American Community Survey 2004*. R0601 Percent of the native population born in their state of residence. [Data file]. U.S. Washington, DC: U.S. Census Bureau. Retrieved June 19, 2006 from http://factfinder.census.gov/home/saff/main.html.

20. *American Community Survey 2004*. R0702. Percent of people 1 year and over who lived in a different house within the same state 1 year ago. [Data file]. Washington, DC: U.S. Census Bureau. Retrieved June 19, 2006 from http://factfinder.census.gov/home/saff/main.html.

21. Lamb, M.E. (1996). Effects of nonparental child care on child development: An update. *Canadian Journal of Psychiatry*, 41, 330-342.

22. Howes, C. and Hamilton, C.E. (1993). The changing experience of child care: Changes in teachers and in teacher-child relationships and children's social competence with peers. *Early Childhood Research Quarterly*, 8, 15-32.

23. McLoyd, V.C. (1998). Socioeconomic disadvantage and child development. *American Psychologist*, 53(2), 185-204.

24. Duncan, G.J., Brooks-Gunn, J., Yeung, W.J., and Smith, J.R. (1998). How much does childhood poverty affect the life chances of children? *American Sociological Review*, 63, 406-423.

25. Noble, K.G., Tottenham, N., & Casey, B.J. (2005) Neuroscience perspective on disparities in school readiness and cognitive achievement. *Future of Children*, 15(1), 71-89.

26. Whitehurst, G.J. & Lonigan, C.J. (1998). Child development and emergent literacy. *Child Development*, 69(3), 848-872.

27. Jordon, N.C., Kaplan, D. Nabors-Oláh, L. and Locuniak, M.N. (2006). Number sense growth in kindergarten: A longitudinal investigation of children at risk for mathematics difficulties. *Child Development*, 77(1), 153-175.

28. Wright, C., Diener, M. & Kay, S.C. (2000). School readiness of low-income children at risk for school failure. *Journal of Children and Poverty*, 6(2), 99-117.

29. Stipek, D.J. & Ryan, R.H. (1997). Economically disadvantage preschoolers: Ready to learn but further to go. *Developmental Psychology,* 33(4), 711-723.

30. *American Community Survey 2005*. B17001. Poverty status in the past 12 months by sex and by age. [Data file]. Washington, DC: U.S. Census Bureau. http://factfinder.census.gov/home/saff/main.html.

31. U.S. Census Bureau. (2005, June). POV34 Single year of age—poverty status: 2004, below 100% of poverty, all races. *Annual Demographic Survey 2004, March Supplement*. Washington, DC: Author. Retrieved October 3, 2006 from http://pubdb3.census.gov/macro/032005/pov/new34_100_01.htm. Additional years 2003 to 2000 were also calculated using the same data selection criteria.

32. Duncan, G.J, et al. See endnote 24. Duncan's analysis of longitudinal data showed that a $10,000 increase in family income over the first five years of a child's life is associated with a 2.9 times increase in the odds the child will graduate from high school. Odds of graduating were affected much less by the same $10,000 income increase over five year periods during the elementary and secondary school years.

33. U.S. Census Bureau. *American Community Survey 2004* and *2000, 2001 Supplementary Surveys* as analyzed by the Population Reference Bureau. Kids Count Online. Retrieved July 6, 2006 from http://www.aecf.org/kidscount/.

34. *National Assessment of Educational Progress*. Average scale scores for reading, grade 4, all students and students in English language learner categories, by jurisdiction. 1992,1994, 1998, 2000, 2003, and 2005 reading assessments [Data file]. Washington, DC: U.S. Department of Education, National Center for Education Statistics. Retrieved July 11, 2006 from http://nces.ed.gov/nationsreportcard/states/.

35. *National Assessment of Educational Progress*. Average scale scores for mathematics, grade 4, all students and students in English language learner categories, by jurisdiction. 1990, 1992, 1996, 2000, 2003, and 2005 mathematics assessments [Data file]. Washington, DC: U.S. Department of Education, National Center for Education Statistics. . Retrieved July 11, 2006 from http://nces.ed.gov/nationsreportcard/states/.

36. Kindler, A.L. (2002) *Survey of the states' limited English proficient students and available educational programs and services, 2000-2001 summary report*. Washington, DC: National Clearinghouse for English Language Acquisition and Language Educational Programs.

37. Green, P. and Scott, P. (1995) At-risk eighth-graders four years later. *Statistics in Brief*. NCES 95-736. Washington, DC: U.S. Department of Education, National Center for Education Statistics.

38. Schmid, C.L. (2006). Educational achievement, language-minority students, and the new second generation. *Sociology of Education*, 74, 71-87.

39. U.S. Department of Education. (2004). *Arizona: Rate of LEP Growth 1993/1994 – 2003/2004*. Washington, DC: Author. Retrieved June 27, 2006 from http://www.ncela.gwu.edu/policy/states/reports/statedata/2003LEP/Arizona-G.pdf.

40. Gutier, M. Arizona Department of Education, Academic Achievement Division, English Acquisition Services (personal communication, July 7, 2006).

41. U.S. Department of Education. (2004) *The Growing Numbers of Limited English Proficient Students 1993/1994 – 2003/2004*. Retrieved June 27, 2006 from http://www.ncela.gwu.edu/policy/states/reports/statedata/2003LEP/GrowingLEP_0304_Dec05.pdf.

42. Baydar, N., Brooks-Gunn, J. & Furstenburg, F.F. (1993). Early warning signs of functional illiteracy: Predictors in childhood and adolescence. *Child Development*, 64(3), 815-829.

43. Strickland, D. and Riley-Ayers, S. (2006). Early literacy: Policy and practice in the preschool years. *Preschool Policy Brief*, April, Issue 10. News Brunswick, NJ: National Institute for Early Education Research.

44. Arizona Department of Education. (2003). Reading standards articulated by grade level: Kindergarten. Retrieved July 6, 2006 from http://www.ade.state.az.us/standards/language-arts/bygradelevel/Kinder.pdf.

45. Enz, B., Perry, N. and Yi, H.J. (2003) *Kindergarten readiness: A review of the literature and recommendations for educational outreach program designs*. Tempe, AZ: Arizona State University.

46. Assessment tools approved by the Arizona Department of education for 2006 include the Texas Primary Reading Inventory (TPRI), the AIMSweb Curriculum Based Measurement (CBM) Reading Assessment System and the Dynamic Indicators of Basic Literacy Skills (DIBELS). Arizona school districts and charter schools are not precluded from using other assessment tools as long as the chosen assessment tool meets criteria outlined by State Board of Education policies.

47. All Arizona school districts and charter schools are required to conduct reading assessments of kindergarten through third grade under the Arizona Department of Education's AZ READS plan to improve reading achievement; however, schools districts and charter schools are not required to report reading assessment data from kindergarten through second grade to the Arizona Department of Education.

48. Reading First is a federal program that provides assistance to states and districts to establish comprehensive, high-quality, research-based reading programs for students in kindergarten through grade three. Reading First provides formula grants to state education agencies. State agencies then award subgrants to local education agencies, such as school districts, on a competitive basis. Funds are allocated to states based on the proportion of children ages five to seventeen who live in that state and who live in families with incomes below the poverty line. Retrieved November 28, 2006 from http://www.ed.gov/programs/readingfirst/index.html

49. Arizona Department of Education. Instructional recommendation – Beginning of year cross tabulation [Data File].

50. Ensminger, M.E. and Slusarcick, A.L. (1992). Paths to high school graduation or dropout: A longitudinal study of a first-grade cohort. *Sociology of Education*, 65(2), 95-113.

51. U.S. Department of Education. (1987). *Who drops out of high school? Findings from high school and beyond*. Washington, DC: U.S, Department of Education, Center for Education Statistics.

52. Although Arizona conducts reading proficiency testing for third and fourth grade through AIMS, the NAEP fourth grade reading scores were selected as the Key Performance Indictor because no complete national comparison is available for AIMS.

53. U.S. Department of Education. National Assessment of Education Progress. Arizona and national profiles for 1992, 1994, 1998, 2000, 2002, 2003, and 2005 reading assessments.

54. Blair, C. (2001). The early identification of risk for grade retention among African American children at risk for school difficulty. *Applied Developmental Science*, 5(1), 37-50.

55. Magnuson, K.A and McGroder, S.M. (2002). *The Effect of Increasing Welfare Mother's Education on Their Young Children's Academic Problems and School Readiness*. Working paper. Evanston, IL: Northwestern University, Joint Center for Poverty Research.

56. Holloman, H.A., Dobbins, D.R., & Scott, K.G. (1998). The effects of biological and social risk factors of special education placement: Birth weight and maternal education as an example. *Research in Developmental Disabilities*, 19(3), 281-294.

57. Winquist Nord, C., Lennon, J., Liu, B., and Chandler, K. Home literacy activities and signs of children's emerging literacy:1993 and 1999. *Education Statistics Quarterly*, 2(1). Retrieved July 14, 2006 from http://nces.ed.gov/programs/quarterly/Vol_2/2_1/index.asp.

58. U.S. Department of Education. *Fifth Grade Findings From the Fifth Grade Follow-up of the Early Longitudinal Study, Kindergarten Class of 1998-99 (ECLS-K)*. Washington, DC: U.S. Department of Education, National Center for Education Statistics.

59. West, J., Denton, K. and Germino-Hausken, E. American's kindergarteners: Findings from the Early Childhood Longitudinal Study, kindergarten class of 1998-88: Fall 1998. *Education Statistics Quarterly*, 2(1). Retrieved July 14, 2006 from http://nces.ed.gov/programs/quarterly/Vol_2/2_1/index.asp.

60. Kogan, M.D., Alexander, G.R., Kotelchuck, M. & Nagey, D.A. (1994). Relation of the content of prenatal care to the risk of low birth weight. Maternal reports of health behavior advice and initial prenatal care procedures [Abstract]. *Journal of the American Medical Association*, 271(17).

61. Krueger, P.M. & Scholl, T.O. (2000). Adequacy of prenatal care and pregnancy outcome. *Journal of the American Osteopathic Association*, 100(8), 485-491.

62. U.S. Department of Health and Human Services. *A healthy start: Begin before baby's born* [Brochure]. Retrieved July 24, 2006 from http://mchb.hrsa.gov/programs/womeninfants/prenatal.htm.

63. Arizona Department of Health Services. (2004).Table 5B-11. *Births by trimester of pregnancy prenatal care began and mother's county of residence, Arizona 2004*. Retrieved July 12, 2006 from http://www.azdhs.gov/plan/report/ahs/ahs2004/pdf/5b11.pdf.

64. Bhutta, A.T., Cleves, M.A., Casey, P.H., Cradock, M.M. & Anand, K.J. (2002). Cognitive and behavioral outcomes of school-aged children who were born preterm: A meta-analysis. *Journal of the American Medical Association*, 288(6), 728-737.

65. Schendel, D.E., Stockbauer, J.W., Hoffman, H.J., Herman, A.A., Berg, C.J., & Schramm, W.F. (1997). Relation between very low birth weight and developmental delay among preschool children without disabilities. *American Journal of Epidemiology*, 146(9), 740-749.

66. Bhutta, A.T., et al. (2002). See endnote 64.

67. Hille, E.T., den Outden, A.L., Bauer, L., van den Oudenrijn, C., Brand, R., & Verloove-Vanhorick, S.P. (1994). School performance at nine years of age in very premature and very low birth weight infants: Perinatal risk factors and predictors at age five [Abstract]. *Journal of Pediatrics*, 125(3), 426-434.

68. Reichman, N.E. (2005). Low birth weight and school readiness. *The Future of Children*, 15(1), 91-116.

69. Hack, M., Flannery, D.J., Schluchter, M., Cartar, M.A., Borawski, E., & Klein, N. (2002). Outcomes in young adulthood for very low birth weight infants. *The New England Journal of Medicine*, 346(3), 149-157.

70. Center for Disease Control and Prevention. Child development: Developmental screening. Retrieved 09/25/06 from http://www.cdc.gov/ncbddd/child/devtool.htm

71. National Institutes of Health. (1993) *Early identification of hearing impairment in infants and young children*. Statement presented at the Consensus Development Conference March 1-2, 1993. Retrieved July 19, 2006 from http://consensus.nih.gov/1993/19933HearingInfantsChildren092html.htm

72. This measure is for Arizona Health Care Cost Containment System (AHCCCS) enrollees who are Medicaid eligible only. KidsCare enrollees are not included. The National Center for Quality Assurance began rotating the reporting of this and other measures in 2000. AHCCCS adopted a similar rotation schedule in 2003. The measure would have appeared on the quality management performance measures report for 2004; however, this was the first year the measure was rotated out, thus no figure is reported for the measurement period October 1, 2002 through September, 30, 2003. Arizona figures for the federal fiscal year ending September 30, 2001 were provided by AHCCCS staff through personal email to the author.

73. National Center for Health Care Statistics. (2006) *Health, United States, 2005, With Chartbook on Trends in the Health of Americans*. Hyattsville, MD: Author. The cited figure is for immunization of children ages 19-35 months with the 4:3:1:3 series of 4 or more doses of diphtheria, tetanus, and pertussis vaccine, 3 or more doses of polio vaccine, 1 or more doses of measles vaccine, and 3 or more doses of *Haemophilus influenzae* type b vaccine as recommended by the Center for Disease Control. The Arizona Department of Health Services exceeds national standards by promoting the 4:3:1:3:3 series that also includes 3 doses of hepatitis B vaccine by age 2.

74. National Center for Health Care Statistics (2006). See endnote 73.

75. Newacheck, P.W., Stoddard, J.J., Hughes, D.C., & Pearl, M. (2005). Health insurance and access to primary care for children. *The New England Journal of Medicine*, 338(8), 513-519.

76. Stoddard, J.J., St. Peter, R.F. & Newacheck, P.W. (2006). Health insurance status and ambulatory care for children. *The New England Journal of Medicine*, 330(20), 1421-1425.

77. Office of the U.S. Surgeon General. (2000, May). *Children's oral health fact sheet*. Washington, DC: U.S. Department of Health and Human Services. Retrieved July 19, 2006 from http://www.cdc.gov/oralhealth/factsheets/sgr2000.htm.

78. Kids Count State-Level Data Online. Children 17 and below without health insurance, most recent 5 years [Data file]. Retrieved July 27, 2006 from http://www.aecf.org/kidscount/sld/profile.

79. Health Resources and Services Administration, Maternal and Child Health Bureau. (2005) *The National Survey of Children's Health 2003*. Rockville, MD. U.S. Department of Health and Human Services.

80. American Community Survey 2005. S2302. Employment characteristics of families, Arizona. [Data file]. http://factfinder.census.gov/home/saff/main.html.

81. National Institute of Child Health and Human Development (2002). Early child care and children's development prior to school entry: Results from the NICHD study of early child care. *American Educational Research Journal*, 39(1), 133-164.

82. Kelly, M., Tobin, J. and Ortiz, K. (2004) The condition of early childhood education and care in Arizona: 2004. In Allen, D., Danzig, A., Delecki, W. Garcia, D., Glass, G. Gonzalez, J., et al. Molinar, A. (Eds.) *The Condition of Pre-K-12 Education in Arizona: 2004* (pp. 2-12). Tempe, AZ: Arizona State University, Northern Arizona University, and University of Arizona.

83. National Association for the Education of Young Children. (1997). Position statement on licensing and public regulation of early childhood programs. Retrieved July 31, 2006 from http://nrc.uchsc.edu/CFO/HTMLversion/Appendix_AA.html.

84. Douglas, D., Programs and Projects Specialist II, ADHS Office of Child Care Licensing (personal communication, August 31, 2006). Figures are based on the number of surveyor positions filled, not the number of authorized positions, and the number of licensed/certificated

providers. Even though newly hired surveyors are counted in the ratio, they aren't assigned a caseload until they are adequately trained. The probation term for surveyors is 12 months.

85. Helburn, S.W., and Howes, C. (1996). Child care cost and quality. *The Future of Children*, 6(2), 62-82.

86. Schools accredited by the Association for Christian Schools International that serve only middle and high school students were excluded from the count.

87. Woodhouse, K., Deputy Associate Superintendent, Early Childhood Education Division, Arizona Department of Education (personal communication, December 6, 2006)

88. ECBG funds may not supplant state funds allocated to schools for full-day kindergarten.

89. Arizona Department of Education. (2006, February) *Early childhood block grant policy manual*. Phoenix, AZ: Author. Retrieved July 19, 2006 from http://www.ade.az.gov/earlychildhood/downloads/ECBGpolicymanual.pdf.

90. Woodhouse, K. See endnote 87.

91. Head Start Program Information Report [Data file]. Washington, DC: U.S. Department of Health and Human Services.

92. Walston, J. and West, J. (2005). Full-day and half-day kindergarten in the United States: Findings from the early childhood longitudinal study, kindergarten class of 1998-99. *Education Statistics Quarterly,* 6(1-2). Retrieved August 15, 2006 from http://nces.ed.gov/programs/quarterly/vol_6/1_2/3_2.asp.

93. Elicker, J. & Mathur, S. (1997). What do they do all day? Comprehensive evaluation of full-day kindergarten. *Early Childhood Research Quarterly*, 12, 459-480.

94. Cryan, J.R., Sheehan, R., Wiechel, J. & Bandy-Hedden, I.G. (1992). Success outcomes of full-day kindergarten: More positive behavior and increased achievement in the years after. *Early Childhood Research Quarterly*, 7, 1987-203.

95. *American Community Survey 2004*. S0901 Children characteristics. [Data file]. U.S. Washington, DC: U.S. Census Bureau. Retrieved June 20, 2006 from http://factfinder.census.gov/home/saff/main.html.

96. U.S. Census Bureau. (2005). *Who's minding the kids? Child care arrangements: Winter 2002*. Washington, DC: Author.

97. Kimmel, J. (1998). Child care costs as a barrier to employment for single and married mothers. *The Review of Economics and Statistics*, 80(2): 287-299.

98. U.S. Census. See endnote 96.

99. Kimmel, J. (2006). Child care, female employment, and economic growth. *Community Development: Journal of the Community Development Society*, 37(2).

100. Hofferth, S. & Collins, N. (2000). Child care and employment turnover. *Population Research and Policy Review*, 19(4), 357-395.

101. Child care providers must have a contract with DES to receive child care assistance subsidies for eligible, enrolled children.

102. Arizona Department of Economic Security. (2004). *Child care market rate survey, 2004; Child care market Rate Survey, 2002*, and *Maximum reimbursement rates for child care, based on the 75th percentile of the 2000 child care market rate survey as identified in the fiscal year 2007 appropriation report*. Figure is calculated on the average daily rate at the 75th percentile for a three year old enrolled in a child care center.

103. U.S. Department of Labor. Quarterly census of employment and wages (SIC), Arizona, 1997 – 2000 and Quarterly census of employment and wages (NAICS), Arizona, 2001 – 2005. [Data file]. Washington, DC: Author.

104. Costs are from the Child Care Market Rate Survey, 2004. Cost range is calculated by using the lowest and highest reported daily cost for all types of child care providers contracted with DES and for any age range, including school-age.

105. Cost is calculated using the 2004-2005 tuition rates for Arizona State University, the 2004 tuition rates for the University of Arizona, and the 2006 tuition rates for Northern Arizona University. Tuition rates are for a full year of full-time (9 or more credits), resident tuition in a regular undergraduate program. Law, medical, and other special undergraduate programs were excluded from the calculation.

106. Burchinal, M.R., Roberts, J.E., Nabors, L.A., & Bryant, D.M. (1996). Quality of center child care and infant cognitive and language development. *Child Development*, 67, 606-620.

107. Whitebook, Marcy. (2003). *Early education quality: Higher teacher qualifications for better learning environments-A review of the literature*. Berkley, CA: Center for the Study of Child Care Employment. Retrieved July 19, 2006 from http://www.iir.berkeley.edu/cscce/pdf/teacher.pdf.

108. Herzenberg, S., Price, M. and Bradley, D. (2005). *Losing ground in early childhood education: Declining workforce qualification in an expanding industry, 1979-2004*. Washington, DC: Economic Policy Institute.

109. Center for the Child Care Workforce. (2002). *Estimating the size and components of the U.S. child care workforce and caregiving population: Key findings from the Child Care Workforce Estimate*. Washington, DC: Author.

110. State School Readiness Board. (2005). *Compensation and credentials: A survey of Arizona's early education workforce*. Phoenix, AZ: Author.

111. Whitebook, M., Howes, C. and Phillips, D. (1998) *Worthy work, unlivable wages: The national child care staffing study, 1988-1997*. Washington, DC: Center for the Child Care Workforce.

112. Whitebook, M., Sakai, L., Gerber, E., and Howes, C. (2002). *Then and now: Changes in child care staffing, 1994-2000*. Washington, DC: Center for the Child Care Workforce.

113. Whitebook, et al, (2002). See endnote 112.

114. State School Readiness Board (2005). See endnote 110.

115. Phillips, D., Mekos, D., Scarr, S., McCartney, K. & Abott-Shim, M. (2000). Within and beyond the classroom door: Assessing quality child care centers. *Early Childhood Research Quarterly*, 15(4), 475-496.

116. Whitebook, et al. (2002). See endnote 112.

117. Whitebook, M, & Sakai, L. (2003). Turnover begets turnover: An examination of job and occupational instability among child care center staff. *Early Childhood Research Quarterly*, 18, 273-293.

118. U.S. Department of Labor. *Occupational wages, May 2005. 25-2001 Preschool teachers, except special education*. Retrieved September 27, 2006 from http://www.bls.gov/oes/current/oes252011.htm

119. State School Readiness Board (2005). See endnote 110.

Safe, Healthy and Ready to Succeed

Arizona School Readiness Key Performance Indicators

State School Readiness Board
Governor's Office for Children Youth and Families
1700 W. Washington Street, Suite 101
Phoenix, AZ 85007
(602) 542-3620
http://www.governor.state.az.us/cyf/school_readiness/index_school_readiness.html